

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of the claims in the application:

Claim 23. (Currently Amended) A superimposing device for superimposing additional information on a signal, said superimposing device comprising:

generating means for generating a code used for superimposing said additional information on said signal and for generating a code inversion timing signal;

setting means for setting first regions of said signal on which said additional information is superimposed with a non inverted polarity and second regions of the signal on which said additional information is superimposed with an inverted polarity corresponding respectively to a high level interval of said code inversion timing signal or a low level interval of said code inversion timing signal; and

superimposing means for superimposing said additional information on said first regions with non-inverted polarity using said code and on said second regions with inverted polarity using said code,

wherein said first and second regions are defined on the basis of N ( $N \geq 1$ ) chips of said code.

24. (Currently Amended) A superimposing device for superimposing additional information on a signal, said superimposing device comprising:

generating means for generating a code used for superimposing said additional information on said signal and for generating a code inversion timing signal;

setting means for setting first regions of said signal on which said additional information is superimposed with a non-inverted polarity and second regions of the signal on which said additional information is superimposed with an inverted polarity corresponding respectively to a high level of said code inversion timing signal or a low level of said code inversion timing signal; and

superimposing means for superimposing said additional information on said first regions with non-inverted polarity using said code and on said second regions with inverted polarity using said code,

wherein said first and second regions are defined on the basis of units formed by dividing a chip of said code used for superimposing into a plurality of said units.

25. (Currently Amended) The superimposing device as claimed in claims 23 or 24, wherein said first regions and said second regions are set to said signal alternately based on said code inversion timing signal.

26. (Previously Presented) The superimposing device as claimed in claims 23 or 24, wherein, said generated code is a spread code, and said superimposing means superimposes said additional information on said first regions and said second

regions of said signal by performing a spreading process on said additional information using said spread code.

27. (Previously Presented) The superimposing device as claimed in claim 26, wherein said superimposing means superimposes said additional information on said first regions and said second regions of said signal by performing a spread spectrum process on said additional information using said spread code.

28. (Currently Amended) The superimposing device as claimed in claims 23 or 24, wherein said superimposing means superimposes said additional information on said first regions with non-inverted polarity using said code and on said second regions with inverted polarity using a an inverted code.

29. (Previously Presented) A detecting device for detecting additional information from a signal on which said additional information is superimposed, said detecting device comprising:

generating means for generating a first code for first regions of said signal on which said additional information is superimposed with a non-inverted polarity and for generating a second code having a polarity different from a polarity of said first code for second regions of said signal on which said additional information is superimposed with an inverted polarity,

wherein said first and second regions are defined on the basis of  $(N \geq 1)$  chips of said first code; and

detecting means for detecting said additional information superimposed on said signal using said first code on said first region of signal and using said second code on said second regions of signal.

Claim 30. (Previously Presented) A detecting device for detecting additional information from a signal on which said additional information is superimposed, said detecting device comprising:

generating means for generating a first code for first regions of said signal on which said additional information is superimposed with a non-inverted polarity and for generating a second code having a polarity different from a polarity of said first code for second regions of said signal on which said additional information is superimposed with an inverted polarity, wherein said first and second regions are defined on the basis of units formed by dividing a chip of said code used for superimposing into a plurality of said units; and

detecting means for detecting said additional information superimposed on said signal using said first code on said first regions of said signal and using said second code on said second regions of said signal.

Claim 31. (Previously Presented) The detecting device as claimed in claims 29 or 30, wherein

said detecting means detects said additional information superimposed on said signal by integrating results of a processing using said first code on said first regions of said signal and using said second code on said second regions of said signal.

    Claim 32. (Previously Presented) The detecting device as claimed in claims 29 or 30, wherein said generating means generates said first code and said second code alternately.

    Claim 33. (Previously Presented) The detecting device as claimed in claims 29 or 30, wherein  
        said first code and said second code are spread codes,  
        and

    said detecting means detects said additional information superimposed on said signal by performing an inverse spreading process on said first regions of said signal using said first spread code and on said second region of said signal using said second spread code.

    Claim 34. (Previously Presented) The detecting device as claimed in claim 33, wherein said detecting means detects said additional information superimposed on said signal by performing an inverse spread spectrum process on said first regions of said signal using said first spread code and on said second regions of said signal using said second spread code.